

5.2.2 Centripetal force

Learning outcomes

Learners should be able to demonstrate and apply their knowledge and understanding of:
(a) a constant net force perpendicular to the velocity of an object causes it to travel in a circular path
(b) constant speed in a circle; $v = \omega r$
(c) centripetal acceleration; $a = \frac{v^2}{r}$; $a = \omega^2 r$
(d) (i) centripetal force; $F = \frac{mv^2}{r}$; $F = m\omega^2 r$
(ii) techniques and procedures used to investigate circular motion using a whirling bung.



Additional guidance

HSW1, 2, 5, 9
M2.4

(6) M - Describe how gases exert a pressure on a surface
(7) S - Describe the relationship between pressure and temperature
(8) C - Explain how to see evidence of gas molecules moving at random

Lesson 2: Centripetal acceleration

STARTER: Describe the motion of gas molecules in a balloon.



Kilo 10³

Mega 10⁶

Giga 10⁹

How does the temperature of the gas relate to the
How does the temperature of the gas relate to the
How does the temperature of the gas relate to the

Key point

Sep 29-15:54

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